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Molecular analysis of the leukotoxin determinants from *Pasteurella haemolytica* serotypes 1 to 16

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All sixteen serotypes of *Pasteurella haemolytica* were shown to produce a leukotoxin protein which is immunologically related to the well-characterized serotype 1 leukotoxin. All of the leukotoxins were weakly hemolytic and were able to bind to BL-3 target cells. The leukotoxin determinants were characterized by Southern blot hybridization by use of the previously cloned serotype 1 determinant as the probe, and a number of distinct classes were identified. The leukotoxin determinants from serotypes 2, 3, and 11 were cloned. Nucleotide sequence analysis of the *lktC* and *lktA* genes of the serotype 3 and 11 determinants revealed nucleotide substitutions throughout the coding sequences. A comparison of the *lktC* and *lktA* genes and deduced proteins of serotypes 1, 3, and 11 showed that they are highly homologous.

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